WHAT IS CLAIMED IS:

1. A method of reducing the memory consumption of a retransmission scheme, the method comprising:

transmitting information to a receiver in the form of data blocks using packet-based transmission;

decoding the received data blocks;

compressing failed data blocks, wherein a failed data block is a data block that fails the decoding process;

storing the compressed failed data blocks;

decompressing the failed data blocks;

combining a decompressed failed data block with an associated retransmitted data block; and

decoding the combined data block.

2. The method according to claim 1, wherein compressing failed data blocks comprises:

calculating a scale factor that represents soft values within the failed data block; and

storing the scale factor and a sign of each soft value within the failed data block in memory.

3. The method according to claim 2, wherein said scale factor is an average of absolute values of the soft values in the failed data block.

4. The method according to claim 2, wherein decompressing the failed data block comprises:

multiplying the scale factor by the stored soft value signs.

5. The method according to claim 2, wherein said soft values are logarithmically scaled values.

6. The method according to claim 5, wherein combining a decompressed failed data block with an associated retransmitted data block comprises:

adding the values of the retransmitted data block and the decompressed values of the failed data block.

7. The method according to claim 2, further comprising:

dividing the data blocks into a plurality of sub-blocks, wherein each sub-block is characterized by a substantially constant signal-to-interference and noise-ratio;

calculating a plurality of scale factors, wherein each scale factor represents soft values within a corresponding sub-block; and

storing the plurality of scale factors and a sign of each soft value within the failed data block in memory.

8. A receiver for receiving packet based data transmissions, the receiver comprising:

a soft output detector;

a decoder;

local memory;

logic that compresses failed data blocks and stores the compressed data blocks in said local memory;

logic that decompresses a compressed data block stored in said local memory; and

logic that combines said decompressed data block with an associated retransmitted data block.

9. The receiver according to claim 8, further comprising:

logic that calculates a scale factor that represents soft values within the failed data block; and

logic that stores the scale factor and a sign of each soft value within the failed data block in memory.

10. The receiver according to claim 9, wherein said scale factor is an average of the absolute values of the soft values in the failed data block.

11. The receiver according to claim 9, further comprising:

logic that multiplies the scale factor by the stored soft value signs.

12. The receiver according to claim 9, wherein said soft values are logarithmically scaled values.

13. The receiver according to claim 12, wherein the logic that combines the decompressed failed data block with the associated retransmitted data block comprises:

logic that adds the values of the retransmitted data block and the decompressed values of the failed data block.

14. The receiver according to claim 8, further comprising:

logic that divides the data block into a plurality of sub-blocks, wherein each sub-block contains a constant SINR;

logic that calculates a plurality of scale factors, wherein each scale factor represents soft values within a corresponding sub-block; and

logic that stores the plurality of scale factors and a sign of each soft value within the failed data block in memory.

15. A method of compressing data blocks within a receiver of a communications system, comprising:

receiving data blocks in the receiver;

calculating a scale factor that represents soft values within the received data block; and

storing the scale factor and a sign of each soft value within the data block in memory.

16. The method according to claim 15, wherein said soft values are logarithmically scaled values.

17. The method according to claim 15, further comprising:

dividing the data blocks into a plurality of sub-blocks, wherein each sub-block is characterized by a substantially constant signal-to-interference and noise-ratio;

calculating a plurality of scale factors, wherein each scale factor represents soft values within a corresponding sub-block; and

storing the plurality of scale factors and a sign of each soft value within the failed data block in memory.